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FATAL CASE OF HYDROPHOBIA.

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THE following case is valuable, and has seemed to justify a somewhat detailed report, for several reasons, namely: there is no indication that the victim was bitten at any time by a rabid animal, and if a case of hydrophobia, the virus must have found its way into the system in some other manner (the disease would therefore probably be designated by the skeptic as lyssophobia or hysteria); the case came under the observation of an unusual number of capable observers, who were of one mind as to the diagnosis; the history and surroundings of the patient previous to the fatal attack were very carefully ascertained, and the course of the disease from its first manifestation carefully recorded; the supposed period of incubation (about eight months) was considerably longer than the average in hydrophobia; curara was used unsuccessfully; a very careful post-mortem examination of the gross and microscopic appearances tends to confirm the diagnosis, and to support previous researches.

Mr. A., produce dealer, fifty-four years of age, was brought to the Massachusetts General Hospital, Wednesday, January 23, 1878, about two P. M., and was entered in the service of Dr. Cabot, with whose kind permission the case is reported. At that time and subsequently the following history was obtained by Mr. H. L. Morse, house pupil, and the reporter: —

Toward the latter part of last May a mongrel dog, kept in Mr. A.'s family as a pet and companion for the children, and which was in the habit of licking the faces and hands of members of the family, became queer, very restless, thirsty, and snappish. Whilst out with Mr. A.'s son he bit another dog, reported to have subsequently died rabid. The dog had snapped at members of the family, but had never bitten them; on one occasion he bit through Mr. A.'s boot, but left no mark on the skin, as to which point both Mr. A. and his wife were positive. When his dog returned home after having bitten the other animal, Mr. A. shot him at his wife's request. Letting the dog lie for twenty-four hours, he then put on a pair of gloves, slipped the noose of a rope around the body, and with these precautions dragged it away to be buried. Nothing more was thought of the matter in the family. The dog's place was taken by some rabbits, one of which bit Mr. A. in the thumb about six weeks before his entrance to the hospital, but there was no reason to suspect these animals of any disorder.

Mr. A. was a vigorous, energetic, muscular man, intelligent and sensible, described by his friends as a person who could do a great deal of work. He was of a somewhat nervous temperament, always very temperate in his habits, and his health had been uninterruptedly good with the exception of occasional "sick headaches with dyspepsia;" these had latterly been less troublesome. He had had business worries, but for some months preceding his illness his affairs had been in a more satisfactory condition. His wife noticed nothing unusual about him until Sunday morning, January 20th. His business friends thought him perhaps a little less lively than usual the day before, Saturday, but otherwise they too report him as in usual bodily and mental condition up to that day. A short time before his illness he had declined to join an organization offering to its members the benefits of mutual life insurance, and had also been engaged in discussing business arrangements for the ensuing summer.

Sunday morning, January 20th, he complained of severe pain in the back of head and neck, but said he would go to church. He did so, but returned feeling worse. Passed a bad afternoon and night. Monday morning was cross and irritable, but went into Boston to his business; returned at an early hour much depressed, saying, "I have come home to die." He drank some hot lemonade, but half an hour later tried to drink water and could not on account of "spasm of the stomach." A physician was summoned; Mr. A. was unable to swallow liquid, but took some powders. He expressed a great dislike to his attendant, refused to see him again, and said he should be all right, and would go into town in the morning.

Tuesday morning, January 22d, Dr. Fuller, of Charlestown, was called to the patient, who had taken no nourishment since Sunday night. He found great aversion to fluids and draughts of air, and considerable nausea accompanied by copious expectoration of a yellow, offensive matter, streaked with blood. A subcutaneous injection of morphia produced no effect. At an interview on Tuesday afternoon the idea of hydrophobia was first suggested. The patient discussed it very rationally, but repelled the suggestion as impossible.

On Wednesday, January 23d, Dr. Cabot saw him in consultation with Dr. Fuller and advised his immediate removal to the hospital. He entered the hospital about two P. M., exhibiting the symptoms already mentioned. In the course of the afternoon he was persuaded, with some coaxing, to swallow a little hominy and milk; was extremely restless, frequently jumping from his bed, and required two attendants; complained of distressing feelings in the region of the stomach. January

24th, 2.30 A. M., there were injected by the rectum twenty grains of chloral and forty grains of bromide without relief; this was succeeded by a spasmodic attack. 3.30, one fourth grain of morphia subcutaneously afforded some relief to the stomach. 3.55, one tenth grain of curara relieved the symptoms referred to the stomach, and the patient was quieted for a time. 4.45 A. M., thirty grains of chloral and forty grains of bromide by the rectum. The patient continued constantly spitting, and the convulsive seizures succeeded each other pretty rapidly.

Eleven A. M. Pupils greatly dilated, pulse almost imperceptible; one fourth grain of curara dissolved in alcohol administered subcutaneously. The pulse improved. Twelve M. Convulsive attack with vomiting. One fourth grain of curara. 12.8 P. M. Convulsive attack, enema, beef juice one ounce, brandy one half ounce. 12.30. Another attack. 12.40. Curara one half grain. 12.50. Convulsion and vomiting. 12.55. Temperature by the rectum 104.3°. One P. M. Convulsion and vomiting. 1.5. Again. The attacks consisted of vomiting, spitting yellow bilious matter, and throwing himself wildly about; they were followed by increasing collapse, and in the intervals the patient was comparatively quiet, though never wholly rational, and always very suspicious of some of his attendants. In two places ecchymoses had appeared at the points of injection. 1.20. Curara one half grain. 1.25. Attack terminating in a convulsive seizure with cold skin, dilated pupils, and almost complete absence of pulse. 2.25. Curara one grain. 2.30. Rectal temperature 105°. 2.35. Convulsive attack, followed by almost complete cessation of pulse and respiration for some minutes. 2.39. Slight convulsion, less spitting, pupils normal. 2.50. Slight attack of same character. 2.55. Beef juice one ounce, brandy half an ounce, by the rectum. 2.56. More violent attack, less spitting, pulse very small. 3. Three tenths grain curara. 3.1. Spitting and oppression of breathing. 3.7. Mild paroxysm. 3.12. pulse stronger, respiration better. 3.26. Pulse very weak. 3.27. Curara one third grain. 3.33. Vomiting and spitting. 3.34. Enema, beef juice and brandy. 3.37. Enemata were rejected. 3.42. Spitting. 3.48. One third grain curara. 3.54. Pulse barely perceptible. 4.15. Curara one third grain. 4.23. Spitting; has been failing rapidly for the previous half hour. 4.45. Very slight spasm. Five P. M. Dead.

Although there is no history of the patient's having been bitten, the affectionate habits of the dog and the occupation of the patient, which rendered him very liable to have cuts and scratches upon his hands, offer a plausible explanation of the contraction of the disease, and one not invalidated by his precautions at the time of the dog's death. His neglect to take steps affording a provision for his family and his plans for business at a distant date are strong indications, if any were needed, that he did not anticipate any calamity himself. The length of incubation, — about eight months, — though exceptional, is very far from being unique.

A word as to the use of curara in this case. Omitting the one tenth of a grain of curara administered at 3.55 A. M., about four grains were injected in all between eleven A. M. and 4.15 P. M., in nine separate doses, varying in amount from one fourth of a grain to one grain. No marked physiological effects, however, distinctly referable to the curara were observed, although the drug entered the circulation and was of good quality, as was subsequently shown. We are led to think that the solution of curara should be very carefully prepared, as mentioned in the JOURNAL of March 7, 1878, page 316, that larger amounts than might be anticipated should be used, and that for a fair trial the curara should be resorted to at an early stage. In the present case three different specimens of curara were used; two of these were tested upon frogs, and proved of rather more than average activity. That the curara entered the circulation was thus shown: About one half pint of urine — the whole amount secreted in twenty-four hours — was drawn from the patient's bladder after death. Three cubic centimeters of this urine were injected in three portions within half an hour into a frog; in less than two hours there was decided paralysis of motion. The same amount of normal urine was introduced under the skin of another frog without effect.

Five one thousandths of a gramme of the first chloroform extract of curarin, obtained from the hydrophobous urine by Professor Wood according to Dragendorf's method, were introduced under the skin of another frog, and marked physiological symptoms were manifested within two and a half hours. With .0045 grammes of the second chloroform extract no results were obtained.

The autopsy was made on Friday, January 25th, nineteen hours after death. There was marked rigor mortis and lividity of the lowermost parts of the body. The inspection of the body gave no evidence of unusually rapid decomposition.

While exposing the spine the surrounding tissue seemed to contain less fluid than usual. No abnormal appearances were observed in the membranes of the spinal cord, or upon the surface of sections made across the latter at intervals of an inch throughout its length.

The calvaria was readily separated from the dura mater, both the bone and the membrane presenting no unusual appearances. The longitudinal sinus contained a soft gelatinous clot, only partially filling the cavity. The pia mater was occasionally spotted and streaked from fibrous thickening, and was unusually injected over the greater part of the convexity of the brain, the vessels being often varicose. The meshes contained a considerable excess of clear fluid, and the membrane was readily detached from the brain. On section of the brain no unusual appearances were observed in the ventricles or cerebral substance beyond abundant puncta cruenta.

The pericardium was not abnormal. The right side of the heart was distended with abundant soft, dark coagula, the left side contracted, though containing a moderate quantity of dark, clotted blood. The valves presented no unusual appearances. The muscular wall of the heart, with the exception of the interventricular septum, seemed to be normal. Numerous dark-red discolorations were distributed throughout the septum, most abundantly towards the endocardium and apex, and were found with the microscope to be due to slight diffuse hæmorrhage.

The external appearances of the lungs were not remarkable. On section these organs were uniformly injected and aerated, rather dry except at the dependent portions, where very slight hypostasis was indicated. The microscopical examination of the tissue showed nothing unusual. The bronchial tubes not remarkable with reference to injection or contents. The larynx and trachea presented no unusual appearances.

The tongue was dry towards the apex; the follicles at the base were not unusually enlarged. No abnormal appearances were observed in the pharynx or submaxillary glands. The œsophagus from the bifurcation of the trachea downwards was extensively œdematous; otherwise not remarkable. The stomach was contracted and nearly empty. Its mucous membrane was moderately opaque, without evident ecchymoses. The longitudinal folds were not abnormally discolored, but were coated with a yellowish and somewhat opaque mucus. The small and large intestine presented no unusual appearances.

The spleen, liver, and kidneys contained an increased quantity of blood; otherwise they were not remarkable. The bladder was distended with about a half pint of urine.

The only striking appearances observed at the general examination were the cardiac hæmorrhages and the œsophageal œdema. The former are to be considered as of different origin from the ecchymoses frequently observed in death from suffocation, on account of their seat and the absence of hæmorrhages in those parts where they so often occur in this form of death. There was no evidence that the œdema of the œsophagus was of inflammatory origin.

The chief interest naturally centred in the possible condition of the nervous system, and the spinal cord, medulla oblongata, and portions of the cerebral convolutions were preserved in Müller's fluid for the purpose of a microscopical examination. Positive results were obtained from the medulla alone; it should be stated, however, that the cord was imperfectly hardened, so that the sections obtained from it were comparatively useless. The changes found in the medulla were observed throughout its length, and were most commonly met with in the posterior portion, especially in the immediate vicinity of the floor of the fourth ventricle. The alterations were most extreme in that part corresponding with the calamus scriptorius. The appearance most frequently met with was an infiltration of the adventitia of the veins with small, round cells, both large and small veins being affected. So abundant was their distribution that upon longitudinal section the wall of the vessel seemed to be paved, as it were, with these cells. As a rule, the vessels thus modified were distended with blood, and it seemed probable that the observed changes were pathological, as the vessels in other parts of the medulla did not present such an appearance. The injection of the veins was so complete at times that their section was of a dark-brown color and quite opaque, the individual corpuscles being indistinct, and the condition deserved to be spoken of as a thrombosis. It was evident from transverse sections that the indifferent cells were not simply adherent to the inner surface of the vessel, but were actually within the wall, nor was there any evidence of an increase in the relative proportion of white to red blood-corpuscles.

Another appearance often met with was that of hæmorrhage. In general the extravasated blood was found within the perivascular, particularly venous, spaces. The sharply-defined outline of the corpuscles and the absence of granules of blood-pigment indicated that the hæmorrhages were recent. Transverse sections of the injected vessel, with its wall infiltrated with round cells, and a perivascular accumulation of red blood-corpuscles, were often met with. In none of the sections were ruptures of the vessel wall seen. At times the wall was somewhat collapsed, the contents correspondingly less, while around the vessel a considerable hæmorrhage was apparent. The hæmorrhages were usually limited to the perivascular space, the blood rarely having made its way between the nerve fibres or into the gray matter.

Finally, an appearance was sometimes met with which may be spoken of as a miliary abscess. Occasional minute agglomerations of indifferent cells were seen, but their relation was such as to suggest their probable origin from sections through limited portions of the infiltrated adventitia already referred to. In two instances, however, actual abscesses were found, — one within a convolution of the olivary nucleus, another in the immediate vicinity of a pigmented ganglion cell in the upper part of the medulla. The former was the larger, and it was found in a part where none of the cellular infiltration of the vessels already mentioned was observed.

In brief, then, the alterations were a diffuse cellular infiltration of the adventitia of the veins, venous injection and thrombosis, perivenous hæmorrhages, and miliary abscesses.

It is interesting to compare the results of this examination with those recently made by other observers, which have been published from time to time of late years. Vascular injection and hæmorrhages have been recognized by most investigators, beginning with Hammond and Benedikt, whose articles appeared in 1874 and 1875. Both of these writers attach considerable importance to the presence of hyaloid masses and granular material. The former are very often met with in specimens of brain and spinal cord which are hardened in chromic acid and its compounds, and are most probably the result of decomposition independent of any pathological changes. They may be met with in normal specimens, and are to be regarded as evidence of an incomplete hardening of the specimen. It of course remains open whether the hyaloid masses referred to by various observers are of the same nature, a question only to be decided by a critical examination of the sections by several persons. Such masses were frequently met with in the present case, and their characteristics correspond with those described by Benedikt[1] as due to granular disintegration. Kolesnikoff[2] first mentioned in detail the accumulation of cells in the perivascular spaces, an appearance which later observers have generally noticed. It does not appear in his paper (a preliminary communication merely) whether he refers to the adventitia of the vessel, the lymph space of Virchow and Robin, or the perivascular space, the lymph space of His, lying between the adventitia and the nervous tissue.

He also describes the presence of collections of round cells in the lymph spaces surrounding the ganglion cells, as well as within the latter. Benedikt alludes very briefly to the presence of numerous lymph corpuscles within the lymph vessels, and to numerous "inflammatory nuclei" surrounding vessels. Appearances similar to those described by Kolesnikoff were found by Coats,[3] who makes no mention, however, of hyaloid masses. Cheadle[4] follows with a description of injection and hæmorrhages, but he apparently did not observe any accumulation of round cells.

A most excellent report of the examination of the nervous centres in four cases of hydrophobia is made by Gowers,[5] and is illustrated by a number of careful drawings. The changes observed by him correspond very closely with those found in the present case. He notes the presence of granular *débris* within the spaces surrounding the vessels, a condition not met with in our sections. Gowers states that "there is certainly nothing in the histological characters of the lesions which can be regarded as specific of the disease. . . . But the distribution of the lesions, their intensity in the lower part of the medulla and in the neighborhood of certain nerve nuclei, is, as far as I am aware, peculiar to the disease, and constitutes a distinguishing anatomical character."

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[1] Virchow's Archiv, 1875, lxiv. 557.

[2] Centralblatt für die medicinischen Wissenschaften, 1875, 853.

[3] Lancet, February 3, 1877.

[4] Medical Times and Gazette, December 8, 1877.

[5] Transactions of the Pathological Society. 1877. Reprint.

Benedikt, in a second article,[1] in which the paper of Gowers is noticed, states that the miliary accumulations of leucocytes are not absolutely characteristic of lyssa.

It is to be stated that all the recent observers are by no means agreed as to the uniformity of the anatomical appearances in rabies. Schultze[2] was able to find nothing else than a vascular injection, and is inclined to doubt the existence of other observable changes in the nervous system in these cases. Such an inference is, at present, unjustifiable, and the general agreement of the results of the investigation of a considerable number of cases in Russia, England, Germany, and the United States indicates the importance of a thorough histological study, certainly of the medulla, though also of portions of the brain and spinal cord. It is to be hoped that the English committee now investigating the subject may be able not only to confirm but also to extend our knowledge of the changes to be found in so interesting an affection. Although the advocates of the existence of such a disease as hydrophobia may feel strengthened in their position by the discoveries already made, their opponents are not yet overcome by any evidence which has thus far been offered. A few more cases examined with the thoroughness, skill, and impartiality exercised by Dr. Gowers are likely to furnish the evidence which shall enable the pathologist to determine the exact position of the complex group of symptoms which has excited so much interest, both within and outside the medical profession.

CONCERNING CORONERS AND THE THEORY AND PRACTICE OF INQUESTS.[3]

BY THEODORE H. TYNDALE.

Mr. President and Gentlemen, — Foremost among the objects for which a state is formed is the security of life. Without now taking the time to dwell further on the topic, it is enough to say in general terms that all human civilization and all progress, material and spiritual, were impossible without the firm assurance of this security. To maintain this assurance in its integrity is therefore of supreme importance to the state, and in endeavoring to do this it will exert all rightful means to prevent acts which tend to weaken the public sense of safety, and will seek promptly and certainly to inflict punishment for them, to the end that they may not occur again.

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[1] Virchow's Archiv, 1878, lxxii. 425.

[2] Deutsches Archiv für klinische Medicin, 1877, xx. 383.

[3] A paper read before the Massachusetts Medico-Legal Society at its annual meeting held at Boston, June 11, 1878.

There are in all communities persons whom nothing but fear will deter from wrong-doing. Such persons, having no other power to restrain them, must be taught to feel the force of the law of cause and effect, must be taught to understand that the violation of a law is invariably followed by punishment as its logical and natural result, just as the seed brings forth the fruit; and to this end nothing is more effectual than *swiftness* and *certainty*. Minds that are incapable of taking in the theoretical statement will nevertheless unfailingly understand its force when practically demonstrated. To such you must bring home the conviction of inexorable and undeviating law, *swiftly* and *surely* applied.

How most effectually to reach this end, how best to attain this swiftness and certainty, this is the question which must settle all methods and detail for us. Be a system or tradition never so dear to this individual or to that nation, if they do not tend to establish this precision of result they are useless, and must give place to that which will. To this question all preconceived notions and pet ideas must yield. If they do not bear this test they have no right to prevail.

The special subject before us is the discovery of the cause of a death where the cause is unknown, and there is suspicion of wrong-doing. What is the purpose of the discovery, and how is the proceeding conducted? The answer to the first question is the *theory*, that to the second is the *practice*, of inquests.

What object is sought for in investigating the cause of a death? Why should the state wish to ascertain it? Why not bury the body and be done with it? Because a crime may have been committed, and the life of the state depends on its suppression of crime. Because to let one death go by unnoticed is directly to bid for concealment of crime, and to publish to the wrong-doer that he may with impunity kill his enemy, if only he take care that no one shall see him, and that the body shall be found without indication as to who perpetrated the deed.

With a private death, a death by natural means, the state does not concern itself. But a death becomes a matter of public concern the moment it is suspected that another's act caused or contributed to it. For the state cannot suffer a death by the act of another to be treated as a private injury, and to be privately adjusted, lest punishment take on the form of revenge, and beneficent protection become perverted to prejudiced persecution; lest heat and haste endanger justice, and passion subvert judgment. The moment, therefore, that a crime is thought to have been committed, the state interposes its calm and impartial hand; if it be a crime, the individual injury is merged in the danger to the common safety; if it be not, the individual is shielded from wrongful oppression. It has ceased to be a private matter between victim and accused, and has become a state affair. These considerations lead us to the answer: —

THE PURPOSE OF AN INQUEST IS THE DETECTION OF CRIME.

Incidentally it effects other ends as well, such as the exculpation of the innocent accused, the reassuring of the public mind, etc., but all such results, however important in themselves, necessarily flow from and are merely incident to the single purpose, *to detect crime.*

The word inquest or inquisition has been variously used to express both the entire proceeding by which the result was arrived at, and that result itself. Thus, for instance, an inquest was held and an inquisition (or verdict) was returned by the jury formerly, and there are instances in the English law of prisoners being tried upon the "inquisition," the "inquisition" being traversed and quashed.

The inquest now, however, is the inquiry. Formerly, you know, it was conducted by a coroner, and was known as a "coroner's inquest." This official originally had diverse functions, which in process of time have partly become obsolete, but in greater part have one by one been transferred to other officers specially created for the performance of such duty, and better adapted to the increasing multiplicity and complexity of the needs of advancing society.

He was a crown-officer, a sort of ministerial deputy of the crown. To deny his worth and usefulness in his day and generation were to ignore history, and to be forgetful of the laws of our own growth. For a period when a revenue officer, the head of a bureau of standard weights and measures, a conservator of the peace, prosecutor of crimes, and sheriff's lieutenant could all be combined in one person, he sufficed. As such indeed he was an official entrusted with large discretion and great powers; and his office was a dignity and an honor, which no one would disgrace by receiving pay for it, and which none but lawful and discreet knights could hold.

But long since these functions, one by one, have grown too important in themselves, and too unwieldy, to be united with others; one by one they slipped from the hands of the coroner until but two were left him: first, the inquiring into the cause and manner of supposed deaths by violence, and, second, in certain contingencies the assumption of the office of sheriff.

These he continued to administer for some hundreds of years. But the actual work of these even was, ages ago, transferred to other hands. So far as any result flowed from it, the first steps of an investigation of a supposed crime have for a long period been performed by courts, and sheriffs have long had their regular deputies. The work of actual value, therefore, and that to which any weight attached, had all passed into other hands. Though the coroner continued to go through with certain formalities and proceedings, they were, and where they still exist are, wholly without meaning or value. Not the slightest attention is paid to his work, and not the least consequences attach to its results. So far as such work is of importance it is done over again by other offices and officers.

Useless it had long been, then; and had it been likewise harmless it might have gone on in peaceful imbecility for other hundreds of years. But bad and dishonorable men gradually got into the anciently honored office; corruption and abuses flourished in it openly. On the healthful symmetry of legal systems designed for beneficent ends this was an excrescence, and became a festering sore. It brought reproach and contempt on important portions of the administration of the law, and distrust and ridicule upon solemn trusts, until at last further forbearance would have been criminal.

Turning afresh to the source, and looking purely at the actual wants of the case, the State of Massachusetts, last year, abolished this worn-out office; and this it did in order that right conditions might again hold sway, and that an orderly system might take its place. The latter is now a logical part of the administration of the criminal law.

When now I say to you, "The coroner is dead, long live the medical examiner," it is not to convey to your minds any implication such as inhered in the proclamation, "The king is dead, long live the king." That was a tribute to the fiction of continuity in the head of the government. It is not my intention to convey to your minds any implication of successorship.

True, the coroner is dead, but you are not his successors. He has no successor. The line is extinct, and the race a memory. You are a *substitute* for him.

The coroner united within himself the duties of medical examiner and judge, and it was in this incompatibility of functions that the danger of the old system in our time lay. If now it be difficult, in the vastness of modern research, to be familiar and skilled in all branches of your profession, if it be more than mortal man can compass to know all the science of the law, how then can it be possible that one man should be versed in both, and so well versed as to be expert witness in one, and judge in the other?

You know, too, that the qualities of mind called into exercise in the practice of the two professions are not only different and distinct, but indeed diametrically opposed to each other. "Science is armed with a microscope, justice is blind;" the scientific investigator himself seeks his facts, and testifies to them. A judge never comes in personal contact with facts, but receives them from others, and holds the balance between them. Who can undertake to do both, — to be interested in the one and remain impartial in the other?

It was to get rid of this ill-assorted marriage that the new inquest law of Massachusetts abolished the office as theretofore existing, and, distributing its functions in strict accordance with the requirement of the duties to be performed, created the medical examiner for the performance of one duty, and transferred the other duty to the judges of the courts, leaving to each only that which is properly his function; the medical work exclusively to the medical examiner, and the legal work exclusively to the judges. There is here no community or confusion of duties; the line is sharp and clear.

(To be concluded.)

FLOATING SPLEEN.[1]

BY FREDERICK C. SHATTUCK, M. D.

THE line of treatment to be adopted in any particular case varies mainly with the recency of the dislocation and the degree of inconvenience to which it subjects the patient. I will consider the question of treatment from four points of view: according as it may seem desirable to do nothing; to attempt permanent reduction of the dislocation; to aim at alleviation or possible cure by reducing the size; or, lastly, to excise the organ.

The let-alone policy is that which has hitherto been followed in most cases, possibly partly from the impression — in which I shared until I had gone into the question — that the lesion is one of little or no gravity, but mainly from the difficulty of being sure of doing less harm than good. In view, however, of the fact that the lesion involves possibilities of the greatest danger, I should in another case make more of a point of attempting cautiously to diminish the size of the organ, if enlarged, and to retain it in place as far as possible.

Piorry was the first to attempt to keep a dislocated spleen in place by means of a bandage, but with what success I have been unable to ascertain. In Pirotais's case the woman was unable to rise from her bed until a bandage was applied; from this she obtained great and prompt relief, but whether the organ was kept permanently in place is not stated. In the case of sudden dislocation mentioned by Kilpatrick, the woman was put to bed, the foot of the bed raised, the spleen pushed back into place and retained there by bandages. After several days the bandages were removed and the patient felt no subsequent inconvenience. We are left to infer that the reduction was permanent, but that fact is not directly stated. It is only in acute cases like these that there is much hope of effecting permanent reduction, and the question naturally arises as to its mechanism in case it is effected. If the ligaments be ruptured or materially elongated, the possibility of their repair or restoration to the normal length would seem in the highest degree remote; and it appears to me more rational to seek for the cause in the occurrence of adhesive perisplenitis, which might perhaps be further promoted by cauterization over the organ. Whether a bandage or appliance can be contrived which will keep the organ in place and admit of being worn for a prolonged period, without at the same time exercising injurious pressure on other parts, remains to be seen.

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[1] Concluded from page 241.

Enlargement plays so important a part in the production and intensification of dislocation as to justify us in attempting to reduce the size of the organ. From the earliest times the spleen, especially when enlarged, has been regarded as an impediment to running. Democritus, Erasistratus, and Rufus of Ephesus all regarded it as a useless appendage, nay, as positively injurious.[1] Plinius Secundus says, "This member hath a property by itself sometimes, to hinder a man's running: whereupon professed runners in the race that be troubled with the splene have a desire to burn and waste it with a hot iron. And no marvel, for why? they say that the splene may be taken out of the bodie by way of incision and yet the creature live neverthelesse: but if it be man or woman that be thus cut for the splene, hee or shee loseth their laughing by the means. For sure it is that intemperate laughers have alwaies great splenes."[2] He also gives minute directions for preparing and taking a decoction of a plant called horsetail, and states that a three days' treatment suffices to "waste the splene of footmen and lackies."[3] Celsus[4] recommends highly drinking after meat the water in which a smith has often extinguished hot iron, "a remedy which very powerfully contracts the spleen." Its use was suggested by the observation that animals bred in the houses of smiths have very small spleens.

Various methods of cauterizing the splenic region, with the idea of diminishing the size of the organ, are described by the ancients. In the time of Hippocrates the hot iron was thus used, as also a kind of dried mushroom, eight or ten of which were placed over the spleen and set afire. Paulus Ægineta[5] teaches a method of cauterizing in six places at once, with a three-toothed cautery. In the Middle Ages, also, we find cauterization practiced on running footmen. Maebius,[6] who died in 1664, saw a runner of Count Tilly with a deep cicatrix in his splenic region, who attributed his great speed and endurance to an operation done on him by the physician of the count. The doctor put him to sleep by a potion, made an incision over the spleen and applied the hot iron. The runner also stated that the same operation had been done on five others, but one of whom had died in consequence. Whether the cauterization was ever applied to the spleen itself must remain undecided, for the present at all events; but it does not seem likely that it was. The practice is spoken of almost exclusively in connection with athletes and running footmen, presumably a very healthy class of men, and was rather a matter of training than of medical treatment.

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[1] Burette.
[2] Hist. Nat., lib. xi. 37–80, old translation.
[3] Lib. xxvi. 13, 83.
[4] De Medicina, lib. iv., cap. ix.
[5] Sydenham Soc. Trans., book vi., c. 48.
[6] Burette.

To hasten to modern times: if the enlargement is of somewhat recent standing and due to malaria, quinine and change of climate may be serviceable. Cutler[1] and Bradford have known the enormous spleen of a leucocythæmic patient to undergo marked decrease in size under the prolonged administration of increasing doses of Fowler's solution. Some hopes of good results would seem to be held out by parenchymatous injections of ergotin or other substances, or by electro-puncture, but further facts are needed to establish the real value of these procedures. Küchenmeister suggests that when the absence of adhesions permits, taking a hint from nature, artificial rotation may be attempted.

The same writer also urges strongly excision of the floating spleen, if it be a serious inconvenience to the patient and other therapeutic measures have failed. Simon, Magdelain, and others have written monographs on this operation. Simmons[2] briefly mentions fourteen other cases in connection with a case of his own; and a valuable collection of cases is tabulated in the Medical and Surgical History of the War. Martin's[3] recent case of successful excision of a floating spleen antiseptically, and some facts as to extirpation of the spleens of runners in ancient and modern times, facts which no modern writer on splenotomy has mentioned, as far as I know, are my excuse for going into this question in some detail.

Several writers of antiquity state that the spleen was sometimes actually excised from runners to give them greater speed; and Burette,[4] whose careful study of the whole subject cannot be too highly commended, says that although he can find no special instance of the operation, he believes that it was done in rare cases. There is a popular idea that splenotomy was practiced on the running footmen of the Middle Ages, and Cabrolius[5] states positively that it was done; but in Zedler's[6] remarkable encyclopædia, published early in the eighteenth century, it is, on the other hand, stated expressly that it was *not* done. Cabrolius wrote early in the seventeenth century, and was a medical man; whether the writer of the article in Zedler, from which I have quoted, was a medical man or not I cannot say, but credulity and the unscientific mind belong to humanity, and are confined to no one profession or calling. Bartholomus says that the Turks, if their old chroniclers are to be believed, had a special and secret means of removing the spleen of runners; from lay sources we hear of splenotomy being practiced on the Indian runners of Texas,[1] and on the syces of Hindostan.[2] Now, though no one of these indications alone is worth much, when taken all together I think that some value must be attached to them, especially when we bear in mind the well-known impunity with which splenotomy is done on animals, and the uniformly favorable results which have followed the removal of larger or smaller portions of the organ in the human subject in cases of prolapse through a wound or injury of the left side. Sixteen of these cases — and the list is not claimed to be complete — are tabulated by Otis,[3] in every one of which perfect recovery took place. So much for removal of the *healthy* spleen. A floating spleen is almost always, however, an enlarged spleen, and an enlarged spleen again is almost always an indication of a cachectic state of the system, which would probably tend to diminish the chances of recovery from any serious operation. What do the statistics of splenotomy for disease teach us? To the fifteen cases collected by Simmons I will add five,[4] making twenty in all. Six of these were successful, fourteen fatal; a mortality of seventy per cent.

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[1] Am. Jour. Med. Sciences, January, 1878.

[2] Pacific Medical and Surgical Journal, December, 1877.

[3] British Medical Journal, February 9, 1878.

[4] Mémoire sur la Course des Anciens. Acad. Roy. des Inscriptions et Belles Lettres, 1713.

[5] Ontleeding des Menschlycken Lichnams.

[6] Universal Lexikon, article Læuffer.

Urbinato's case I have, unfortunately, not been able to consult in the original; as reported in the *British Medical Journal* it is said that the spleen was enlarged and floating, but the symptoms are not given, nor is it stated definitely why the operation was undertaken. I must hence, provisionally, give Martin the credit of having been the first to remove the spleen simply for dislocation. His patient suffered such inconvenience that she cheerfully accepted the risks, and the organ, which was but slightly larger and heavier than usual, was removed. She made a good and rapid recovery, and four months after the operation was perfectly well and free from discomfort.

Splenotomy is not an operation to be done lightly, but I think that I have shown some reasons for hoping that better results may be looked for in the future. Malassez and others have given us the means of obtaining a more accurate knowledge of the condition of the blood than lay within our power until very recently, thus enabling us to pick our cases more carefully; and the antiseptic method promises to rank as second only to the discovery of anæsthesia in enlarging the domain of surgery.

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[1] Beddoe. Times and Gazette, ii., 1867, page 608.

[2] I am informed by old residents of India that they have often heard of cutting out the spleen of these runners to spare them the stitch in the side.

[3] Medical and Surgical History of the War.

[4] For the cases of Ferrerius and Dorsey, vide Medical and Surgical History of the War. For the case of Urbinato, vide British Medical Journal, October 4, 1873. For Martin's, vide same journal, loc. cit. For the case of Fuchs, vide Prager Vierteljahrschrift, 1878, Band ii., page 46.

RECENT PROGRESS IN PUBLIC HYGIENE.

BY F. W. DRAPER, M. D.

Sanitary "*Normas.*" — At the twenty-first annual congress of the British Social Science Association, held in Aberdeen, September 19, 1877, Mr. Edwin Chadwick, C. B., read an address before the health section, in which he pointed out the present position of sanitary science and the advances which it has made since, in 1842, he took an active part in awakening interest in public hygiene in England. From his own experience as a government official, and from the published records of various institutions, he gathered the satisfactory assurance that practical sanitation was not a delusion, but was capable of tangible and beneficent results. The saving in human life attained as the fruit of applying intelligently the recognized principles of hygiene in infant asylums, in jails, and in the army and navy indicated, in his belief, what is possible for the entire race, and pointed to the "normas" of sanitation for the people at large.

The following is his summary of conclusions, as deduced from experience and as showing what is attainable : —

"(1.) That we have gained the power of reducing the sickness and death-rates in most old cities by at least one third ; or, as a rule, to 16 or 17 in 1000.

"(2.) That in new districts, on sites apart from old urban sites, we may, with a complete arterial system of water-supply and surface cleansing, — including measures for the prevention of overcrowding, — insure a reduction of death-rates to less than one half, or to a mean rate of 10 in 1000, and the sickness in like proportion.

"(3.) That in well-provided and well-regulated institutions for children from three to fifteen years of age we may secure them an immunity from the common children's epidemics and reduce the death-rates to the mean of about 3 in 1000, or to less than two thirds of the death-rates prevalent among children of those ages in the general population.

"(4.) That in prisons and places under effective sanitary control, the death-rates (from disease) have been reduced among persons from the school ages and upward to about 3 in 1000, or to one third of the death-rates prevalent among the population of the same ages.

"(5.) That to the persons in such institutions an immunity may be given as against all ordinary epidemics, typhus and the eruptive diseases, diarrhœa and dysentery, which ravage the general population.

"(6.) That among the general population a reduction, by full one half, of the diseases of the respiratory organs may be effected by general public sanitation.

"(7.) That complete habits of skin cleanliness, alone and apart from general structural arrangements or alterations of habits in other respects, constitute a factor of about one third the power of 'sanitation.'

"(8.) That by a proper selection and due sanitation of sites in tropical climates and the sanitary care of the population, the birth-rates may be made to exceed the death-rates.

"(9.) That by the increased health and strength imparted by improved physical training under sanitary conditions, on the half-school-time principle, in the infantile and juvenile stages, the efficiency of three, for productive occupations, may be imparted to every two of the most depressed classes of the population.

"(10.) That the death-rates from disease in the mercantile marine may, by the exercise of the like powers of sanitation that are exercised in the Royal Navy, be reduced by two thirds, or to the general death-rate now prevalent in the Royal Navy, about 6 in 1000.

"(11.) That, as indicated by existing normals, the greatly reduced death-rates in the army at home and abroad admit of important further reductions by a more complete application of tried and approved means of sanitation."

The Dissemination of Disease by Pawnbrokers. — An article in the *Sanitary Record* for November 16, 1877, calls attention to the danger of infection which exists in the articles of clothing exposed in pawnbrokers' shops, especially in such establishments as are located in poor neighborhoods. Five cases are cited in which small-pox and scarlet fever were conveyed from pawnbrokers' shops in clothing which had become infected by lying in contact with other clothing from dwellings where, upon investigation, it was found that the diseases had existed. The evidence was direct and conclusive. The writer remarks that these instances go far to explain the persistency of an infectious disease in a poverty-stricken district, and the occasional outbreak of an epidemic in a locality where it has been hitherto absent, and between which and infected places there is apparently no direct connection. Pawnshops are often "Exchanges of Disease," and the poorer the people and the more disease prevails among them, the livelier is the communication between infected and uninfected clothing and bedding.

A similar danger of infection pertains to the barter in second-hand clothing extensively carried on in cities. Persons not particular in such matters are ready to dispose of old clothes from infected premises, no questions are asked by the insinuating bearer of cheap glass and porcelain, and the apparel finds a new owner through the intervention of a cheap shop and becomes the vehicle of contagious disease to other fields.

Disinfection by Hot Air. — Dr. E. Vallin discusses this subject quite exhaustively in a paper recently read by him before the Society of Public Medicine in Paris.[1] After mentioning that the usual method of managing infected bed-clothing after the death or convalescence of the small-pox patient is to expose the articles to the air a few hours, or to beat them as carpets are beaten, thus disseminating clouds of dust composed mainly of variolous pus-globules, the author proceeds to elaborate his subject under the following heads: —

(1.) At what temperature do textile fabrics begin to undergo alterations? The writer's investigations show that woollen tissues alter more rapidly than those of cotton. At 230° F. white wool shows a reddish tint, and at 302° F. it begins to lose its cohesiveness. Cotton and cloth fabrics require a continued temperature of 257° F. to change their color.

(2.) What temperature is necessary to destroy the activity of morbid principles? Upon this point the author does not present any original investigations, but quotes with approval the results of others. Thus, vaccine lymph is devitalized by a temperature of 140° F. (Henry); the liquid virus of charbon (*bacillus anthracis*) loses its activity at 131° F. (Davaine); while the amorphous virus of septicæmia has hitherto resisted the action of heat, M. Davaine having submitted septic fluid to prolonged ebullition without destroying its virulence.

(3.) The best arrangement for an apparatus to disinfect by heat should give certitude that the temperature will not exceed 230° F. or sink below 212°. If fabrics exposed to the heat cannot be secured from damage therefrom, the repugnance to the use of the apparatus by persons responsible for the articles will be invincible and justifiable. The temperature should be equal in every part of the apparatus, and the circulation and renewal of the hot air in the chamber should be active, not only to maintain the desired equality of temperature, but also to facilitate the more rapid penetration of the heat into the interior of voluminous articles subjected to it. Disinfection, in the writer's opinion, would be more effectively secured if the heated air were given a high degree of humidity, short of saturation, by means of a fine jet of steam let into the hot-air chambers, or by passing the heated air, before it enters the chamber, over tanks full of water. Moist air is the best conductor of heat, and thus it facilitates the penetration of the heat to the central parts of the infected articles; moreover, the observations of physiologists have shown that the inferior organisms, when they have been dried, resist the highest temperatures, and thus it is fair to presume that a certain degree of humidity in the heated air will promote its disinfectant power.

The Rochdale System of Treating Sewage. — In a paper read before the Society of Medical Officers of Health,[2] Dr. Mitchell Wilson, the medical health officer for Rochdale, described the method of treating excrement as practiced in his township. This method, now known among sanitarians as the Rochdale system, had its first application in this town in 1869, and has had a trial sufficiently long and thorough to give value to its results. The system has for its object the collection, at weekly or shorter intervals, of the excrement and dry refuse from households in two separate pails, the manufacture of the excrement into manure, and a thorough utilization of all the collected refuse. The work is done under the supervision of the town sanitary authorities. Certain modifications and improvements have been introduced from time to time, until at present the pail method is spoken of by its Rochdale patrons with enthusiastic admiration.

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[1] The Practitioner, March and April, 1878.

[2] The Sanitary Record, February 15, 1878.

The excreta pails (designed to receive excrement only, the house-slops being passed into sewers) are made from the half of a mineral-oil cask. Each pail, on its removal, is fitted with a lid so adjusted with a rubber ring or cushion around the edge, and made fast by a spring and links at the side, that all nuisance is prevented during transportation to the works. The wagons which carry the pails to the manure works are made so as to hold twenty-four of the receptacles, the doors of the vehicle being made nearly air-tight by india-rubber beading, against which they press when they are closed. The pails are collected and replaced once each week; in cases of pails receiving fever excrement the collection is more frequent, and thorough disinfection is practiced. Before being again used each pail, having been emptied, is carefully washed and receives a disinfection by means of a mixture containing ten parts each of commercial alum and chloride of calcium, one part of sugar, and one hundred parts of water.

At the manure works the excrement is evaporated by means of double steam cylinders, each containing a ton and a half. In four and a half hours ninety per cent. of the water in the pail-stuff is evaporated, and the product is a manure in a dry state.

The Rochdale system has been gradually introduced into the town, as a sweeping and compulsory alteration of all the old closets would have raised an undesirable amount of opposition. Privies of the old pattern can no longer be constructed, but all new houses must conform to the new system, and all additional privies on old property and all rebuilding of privies must be in accordance with the pail method. There are now seven thousand of these new privies in the town, the estimated population being seventy thousand. The cost of erecting a new closet is twenty per cent. less than the cost of erecting one on the old plan; and from the dryer condition of the walls and foundations a pail-closet will last longer than the privy of the old style. The appearance of cleanliness, comparing the average condition of both, is very much in favor of the pail closet. The collection of the excrement and the changing of the pails are in the great majority of cases done without the knowledge of the householder and without any offense to any one. Since the improved lids have been used on the pails there has been no complaint of nuisance by their transportation through the streets.

Dr. Wilson points out, as among the special fruits of the Rochdale experiment, a diminished death-rate in the borough since its introduction, and a comparatively small expense for sewage-treatment. The advantages over all other methods, from a sanitary point of view, he believes to be beyond question.

Sanitary Inspection. — A Sanitary Inspection Association has been formed in Edinburgh, whose purpose is the systematic and expert examination of dwelling houses and other occupied buildings in that city. Its plan of operations is set forth by Prof. Fleeming Jenkin, the consulting engineer of the association, in a paper read before the Medico-Chirurgical Society of Edinburgh. Membership in the association is made to depend simply on the payment of one guinea annually. Out of the funds thus provided a consulting enginer and a staff of executive inspecting engineers will be paid. Each member of the society will, in the course of the year, receive a letter from the secretary asking if it will be convenient for him to receive the inspecting engineer on a day appointed. The day being designated, the engineer will make as thorough an inspection as can be made without entailing extra expense on the member; he will then draw up a preliminary report stating whether a complete inspection can be made without cost to the member, and, if not, at what outlay the necessary alterations in fittings can in this particular instance be accomplished. If the member decides that he does not wish to incur any expense he will receive the preliminary report, which will give him all the information concerning the sanitary arrangements of his house which can be procured by the inspection of the engineer aided by one workman. If a complete inspection is wished, the necessary apparatus will be applied. The house drain will have a short length opened to the air, in an area or other properly protected place, this opening being guarded by ordinary water-traps at either side, so that the portion of the drain actually exposed to the air does not exceed that of a common water-pail. With this apparatus in place, with a ventilating grid over it, the following series of experiments will be tried: —

(1.) Is the house drained? This will be tested by fastening up the water-closet handles for a few minutes and watching the flow past the grid at the external trap, whether or not it is impeded.

(2.) Is there any leakage from the house-drain under the basement floor of the house? This will be tested by temporarily plugging up the drain at the trap and filling the pipe or drain in the basement with water. If the water remains at a constant level the drain is clearly water-tight; if not, the amount of the leakage can be measured by the rate at which the surface falls.

(3.) Are the pipes of the house air-tight, and are all openings trapped? This will be ascertained by making fumes of paraffine inside a closed vessel over the open grid at the trap and driving these fumes into the house-system by a fan, but not so as to cause any internal pressure. When it has been determined that these fumes have reached the highest point in the pipes, each room in the house will be inspected, and any escape of paraffine into any room will be detected by its smell, and the place of the escape will also be ascertained easily. [A similar test by means of the oil of peppermint is in constant use by the sanitary inspectors of this city. — REPORTER.]

(4.) Are the traps and pipes properly ventilated? This will be ascertained by pumping air into the pipes at the bottom. If no paraffine fumes are then forced into the house it is clear that at least one part of the ventilating system is in order. In addition to this experiment, the test of passing smoke through the ventilating openings will be made wherever this way seems desirable.

(5.) Is the drinking-water unpolluted? The cisterns will be examined, the position of the overflow pipes noted, and the action of the water-closets inspected.

Shortly after these experiments, the householder will receive a report giving the results, stating also whether any alteration in the house-fittings is desirable and at what approximate cost. If changes are made, the work done will be inspected. All reports will be made according to principles laid down by the consulting engineer, and all doubtful cases will be submitted to him. In proper instances the attention of municipal sanitary authorities will be called to actual nuisances found, but the fundamental object of the association is to perform advisory functions in hygienic matters, to instruct the public, to foster periodical, systematic inspection of household sanitary appliances, and to favor the introduction of new and approved inventions. It will apply the principle that in any case to know definitely what is wrong is to go a long way toward providing a remedy.

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PROCEEDINGS OF THE CONNECTICUT RIVER VALLEY MEDICAL ASSOCIATION.

A. P. RICHARDSON, M. D., CORRESPONDING SECRETARY.

THE annual meeting was held at Bellows Falls, Vt., May 1st. Dr. N. G. Brooks, the president, in the chair. Twenty-five members were present.

Fracture of Skull. — Dr. Webster presented a case of fracture of the frontal bone caused by the accidental falling of the log-carriage of a saw-mill. A piece of bone two inches square, including the superior portion of the left orbit and involving the nasal bones, being detached, was removed; other parts were elevated. There was a free discharge from the wound and a good recovery. The patient was present before the society, and appeared in good health. The left eye was destroyed by the accident, and the nasal duct leading from the right eye was obstructed by an irregularity in the osseous canal through which the duct passes.

Dr. D. Campbell said that a free and complete discharge from such fractures afforded the best condition for recovery.

Diabetes in a Boy Twenty-Six Months Old. — Dr. Brooks related the case. Urine loaded with sugar, twenty-four grains to the ounce; albumen also present; thirty to forty ounces of urine daily. Dr. Brooks remarked upon the rarity of the malady in so young subjects.

Quinine as a Febrifuge. — Dr. Gray gives twenty-five grains of quinine at a time when the temperature is very high in typhoid fever and pneumonia. To a patient with a temperature above 106° F. he gave forty-five grains with marked decrease of heat and subsequent recovery. Others believed in its antipyretic power in large doses, but gave it less heroically.

Lead-Poisoning. — Dr. Campbell reported a case of lead-poisoning resulting from drinking cider drawn from a barrel through lead pipe. He queried if the introduction of lead into the system through water conveyed in lead pipes and in various other ways might not explain numerous neuralgic, spinal, and nameless affections. Might it not make bones more brittle? He thought the attention of physicians should be more directed to this subject.

JULY 3d. Dr. Brooks, the president, in the chair. Fifteen members present.

Rubber Bandage. — Dr. Jarvis showed a specimen, and reported cases of eczema and chronic ulcer of the leg, with varicose veins, treated with rubber bandage, with excellent results.

Perforating Ulcer of Stomach. — Dr. Sawyer read an interesting paper upon this subject. He thinks this form of ulcer more common than is usually supposed. The symptoms are liable to be so equivocal or entirely absent that it is not easily detected, and may be entirely overlooked, or blended with functional disturbances or other organic derangements. It is generally thought that it does not differ from the common ulcer found on other portions of the mucous membrane, or other parts of the body. Its importance depends very much upon the parts involved or functions disturbed. An ulcer upon the leg may give little inconvenience. In the stomach it may interfere with digestion, open blood-vessels, or even puncture through its walls. Its manner of development has not been very satisfactorily explained. It probably depends upon a condition of the blood-vessels which interferes with nutrition of the parts, destroying the mucous membrane, and giving the appearance of being punctured with a sharp instrument. If of long standing its margin becomes indurated and rounded, as is seen in old ulcers of the leg. Having destroyed the mucous membrane it will often remain stationary, its base resting upon the tissues below, giving little or no inconvenience, healing and leaving only a cicatrix to mark its previous existence. Or it may extend into the deeper textures, open blood-vessels, perforate the walls of the stomach into the peritoneal or other cavities, and destroy life. It is usually developed in adult life, and in constitutions broken down from overwork, or by depraved habits. Scrofula develops a condition favorable to ulcer. This is about all that is known of its cause. Any one of its symptoms may spring from other causes, as painful digestion and vomiting from dyspepsia, tenderness from chronic gastritis; hæmatemesis may be vicarious, or may be due to obstruction in the circulation, or to cancer, from which also may arise pain and tenderness. This lesion cannot be diagnosticated by any one symptom, nor always by all combined. It is sometimes impossible to distinguish it from cancerous ulcer by physical exploration or local symptoms, when the constitutional cachexia will betray the nature of the disease. In simple ulcer the constitution is affected mainly by the disturbance of the functions of the stomach alone, and will often be improved by adopting a simple diet, the patient gaining flesh and strength; while in cancer the depression and emaciation are continual, depending upon a condition not under our control. In one instance Dr. Sawyer had relieved the patient of pain by directing him to assume an erect position after meals, as suggested by Dr. Osborne and others, that the contents of the stomach might find a level below the raw surface of the ulcer. That this disease is susceptible of cure we have abundant evidence from cicatrices found after death from other causes. Perhaps the best treatment is that adopted by the celebrated Becklard in his own case. He declared himself cured of ulcer of the stomach by spoon-food, which was proved true by a cicatrix found after death from another disease. Milk given with lime-water, in such quantities as not to distend the stomach, affords to the patient comfort and improvement which may go on to recovery.

The reader had made two post-mortem examinations. The first was a lady thirty years of age, who had had good health till twenty-four hours before death, when she was taken suddenly with agonizing pain diffused throughout the abdomen, with constant desire to void urine. A perforation was found through the lesser curvature of the stomach. The second case was that of a man sixty-eight years old, who had suffered fifteen years with symptoms of ulcer of the stomach, vomiting blood, pain after meals, and dark, coffee-like evacuations. Finally, he died of peritonitis. Perforation was found in the same place and of about the same size as in the former case, the margin of the ulcer being rounded and indurated. There was adhesion of the transverse colon to the stomach, and the mucous membrane was injected and easily torn in considerable of its extent. The habits of the two patients were unlike, which may account for the contrast in suffering. The first lived simply, and was regular in all her habits, while the second lived luxuriously, drank spirits, and denied himself nothing.

Fayal as a Resort for Invalids. — Dr. Blake read a paper giving an interesting account of his late visit to Fayal, the topography of the Azores, and their desirableness as a resort for invalids. He had occasion to see professionally several persons at Flores and Fayal, and invariably the young and middle-aged were suffering more or less from bronchial affections. He is convinced that the Azores, on account of the dampness of the houses in-doors and the extreme humidity of the atmosphere out-doors, are not favorable for invalids suffering from pulmonary complaints, diseases of the throat, or rheumatism. Phthisis is endemic in the same degree as in other parts of the world.

Ante-Partum Hæmorrhage; Death. — Dr. Nichols reported the case of a woman eight months advanced in pregnancy who did a large washing, assisted in painting a room during the day, and retired early in the evening. At twelve o'clock at night she got up to fasten the door after her husband, who went to work at that hour. On again retiring she flowed most profusely, and immediately sent for Dr. Nichols, who arrived within an hour. The profuse hæmorrhage had ceased, there were no labor pains, but the os was fully dilated, the patient cold and nearly pulseless. Stimulants were given and external heat applied. Large doses of ergot were administered, which produced but slight contraction of the uterus. Hæmorrhage ensuing, the child was turned and delivered with but little difficulty. The uterus expelled the placenta, and hæmorrhage ceased. The patient did not rally, and died within an hour after delivery. In turning, the placenta was found two thirds detached from the fundus of the uterus, which accounted for the flooding.

THE ACTION OF MEDICINES.[1]

This book bears the mark of much care and study, and both by illustration and explanation will assist the student to use those instruments of precision which at the present time seem indispensable to the physiological laboratory. Necessarily the writer has devoted much of his space to giving details of the methods of experimentation. We should scarcely expect to find in a book of this character that the action of drugs would be defined in a practical manner, and probably the practitioner of medicine would be more confused than helped by a study of Dr. Ott's book. If, however, the toxicologist or experimentalist desires to understand the use of apparatus of precision in the graphical study of animal functions, he will find aid in this treatise more readily than in any other English work. The plates give material assistance in understanding the apparatus. Without disparagement to Dr. Ott's original work we notice that the explanation of the physiological action of drugs is in a large measure derived from researches of other experimenters, with which this author seems very familiar. We are somewhat disappointed that he has not summarized his deductions from physiological observations in a manner which would be more useful than the present detailed description of the methods of experiment. In its present form the book is quite valuable to the student who desires to carry out a minute study of the physiological action of drugs. Some of the original work lacks thoroughness of research; we notice this defect in the mention of a drug lately introduced to the profession. On page 142 one single dose of erythroxylon coca ("*some coca*") was chewed by the author, who describes in minute and technical language its effect. During the following eight hours he chewed about ninety grammes more, and observed the mental and physical consequences. We should obtain a very crude notion of the medicinal action of this drug if our information were to be derived only from this study. We think our author is scarcely warranted by his own experience in stating, as a general deduction, "In man it increases the pulse and temperature. It decreases the urea, and increased my weight." This conclusion could be arrived at only after the prolonged use of moderate doses, and their action on the temperature and circulation, as well as the amount of urea excreted, were compared very carefully with results obtained during a period when the drug had not been taken. As a general criticism on this book we should say that the author was a good deal confused by a mass of detailed work, which he has not put together in a way that helps the reader to understand the true action of any given drug. The style in which it is written rather aggravates this confusion. We are at a loss to understand (page 99) what "pharmacologists" have to do with the action of the heart; and on page 112 we notice the sentence, "and thus establishing a greater nutritional interchange of products." Less technical language and shorter sentences would have made the book more intelligible.

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[1] *The Action of Medicines.* By Isaac Ott, A. M., M. D., etc. Published by Lindsay and Blakiston. 1878.

TURNBULL ON ANÆSTHESIA.[1]

THIS work was originally written by the author as a report for a medical society, and was subsequently extended to its present form to supply a want for a convenient book of reference on the administration of the various anæsthetics. It contains many practical and useful suggestions as to the class of patients with whom it is unsafe to employ the ordinary anæsthetics; it also gives the method of administration, care necessary while under the effects of the drug and afterwards, and a clear account of the more common reagents used for anæsthesia and the dangers of each. There are also quite full particulars of some medico-legal cases, and a series of investigations as to the effect of different anæsthetic agents on the blood-corpuscles. The book is well written, and the author, while consulting everything of importance and giving due credit to the work of others, has at the same time furnished a large amount of original material which adds greatly to the value of the work. The book certainly deserves well of the profession.

A TREATISE ON GONORRHŒA AND SYPHILIS.[2]

A SIXTH edition and a new date on the title-page have failed to restore to this venerable work its lost youth. The demand for comprehensive treatises on genito-urinary diseases is for the present so fully satisfied that additional contributions to the bulk of existing literature on this subject seem uncalled for. We are of the opinion that the valuable work of Van Buren and Keyes, now generally recognized as a standard authority upon genito-urinary diseases and syphilis, has rendered similar compilations superfluous for some years to come.

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[1] *The Advantages and Accidents of Artificial Anæsthesia.* By LAURENCE TURNBULL, M. D. Philadelphia: Lindsay & Blakiston. 1878. Pp. 208.

[2] *A Treatise on Gonorrhœa and Syphilis.* By SILAS DURKEE, M. D. Philadelphia: Lindsay and Blakiston. 1877. Sixth edition, with eight colored illustrations. Pp. 467.

A SEQUEL TO THE FISHER CASE.

Two years ago a young lady of unblemished reputation, while undergoing a surgical operation for the relief of a dysmenorrhœa of long standing, suddenly died. The outrageous action of A. W. K. Newton, who at that time held the office of coroner, and his manner of conducting the inquest, is still fresh in the minds of the Boston public. Nor has the remarkable medical testimony given on that occasion by Drs. J. B. Treadwell and Horace Chase been forgotten. The readiness with which they were willing, on insufficient evidence, to swear away her innocence (which could not even rightfully be questioned at that inquest) cannot be considered otherwise than a most unfortunate example of the uncertain value of expert testimony. At the autopsy a true *corpus luteum* was found in one of the ovaries, and at the inquest Dr. Treadwell stated that the presence of a true *corpus luteum* in the ovary was a sure sign of pregnancy. We took occasion at that time to protest against such testimony. It was well known, at least among experts on this subject, that the question was still *sub judice*, and that observers whose opinions were entitled to weight had maintained the opposite side.

By request we publish the following letter received by the father of the late Miss Fisher: —

338 Tremont St., Boston, Mass., *August* 3, 1878.

Dear Sir, — In consequence of scientific information lately published I now think that I was wrong in my opinion expressed before the coroner's jury in regard to the recent existence of pregnancy in the case of the late Clara T. Fisher.

Further, I am now convinced that I misapprehended certain questions asked me by Dr. Dalton; and as he has already stated in print that he based his decision upon my answers rather than upon his observation, I think that no weight should be attached to his opinion in the matter.

I wish to express my sincere regret for the grief that I have caused you and the other relatives and friends of your daughter by an opinion which I now believe to be an erroneous one.

Very respectfully, your obedient servant, J. B. Treadwell.

According to this letter Dr. Treadwell has evidently been convinced, owing to further study of the subject, that the presence of the true *corpus luteum* is not a sure sign of pregnancy, and that Miss Fisher was not pregnant a short time before her death. How, then, are we to explain the following extract from a letter written at the time by Dr. Treadwell to Dr. David W. Cheever: "The presence of the *corpus luteum* was not relied upon as the only or the main sign that pregnancy had existed. The presence of the *villi* of the *chorion* was alone sufficient to settle that point." We cannot recall to mind any "scientific information lately published" in reference to the presence of the *villi* of the *chorion* as a *doubtful* sign of pregnancy.

The publication of this last letter of Dr. Treadwell cannot, of course, in any way strengthen the public in their belief in the innocence of the late Clara T. Fisher. It will be looked upon rather as a tardy concession to a well-grounded and universal opinion, and can afford but doubtful consolation to those who were so cruelly and unnecessarily wronged. This whole history is but another illustration of the importance of exercising the greatest care in the selection of expert witnesses.

THE CASE OF CAPTAIN HOLM.

A HEARING was held last week on a writ of *habeas corpus* in the supreme court, Judge Morton on the bench, and Captain Holm, whose case we referred to in our last number, was discharged from the McLean Asylum. Evidence was presented showing a great change of character in Captain Holm for several years past, in consequence of which his feeling and conduct towards his wife and son, and all who sympathized with them, had become decidedly hostile. His conduct in his marital relations four years ago was such as often results from commencing paralytic dementia, and would, if it could be made public, destroy all sympathy for Captain Holm if he is a sane man. Six physicians were of opinion that he is insane, in the form of paralytic dementia, namely, Dr. Sullivan of Malden, Drs. Walker and Rowe of the Boston Lunatic Hospital, Drs. Jelly and Page of the McLean Asylum, and Dr. Fisher of Boston. The testimony also showed that to a considerable degree he was dependent on others for the proper care of his person; that he lost his way frequently, and was liable to be run over or robbed, and that he had lost his sense of propriety in certain respects. It was shown that he was about to leave the country with much of his personal property, with the avowed intention of leaving his wife destitute, and of injuring his son in his business. His family put him in the McLean Asylum only after getting the advice of able counsel and physicians, and of his life-long employers and business friends, Joseph S. Ropes and Charles H. Trask. The physicians were all of the opinion that, although not dangerous to the public nor to himself in any great degree, he would be better off at the McLean Asylum, where he admitted himself to be comfortable and well cared for.

Testimony for the petition was not presented, and the case was argued on the above evidence. Judge Morton, while admitting the probability of the above-stated facts, admitting also that Captain Holm's family were in an embarrassing position, and were actuated by no bad motives, ordered his discharge, on the ground that by the testimony of Drs. Jelly and Fisher he was not dangerous to the public. He said his admission to the McLean Asylum was without judicial warrant, and was not justified even by the fact that he was about to leave the country.

The force of this decision seems to be that no private patient in any of our asylums is under legal restraint, although the hospital may be authorized by law to receive such patients. It has been known to those most concerned that the treatment of a private patient in an insane hospital was a family matter, and that such restraint is exercised at the risk of judicial examination in all cases. It also appears from this decision that no considerations of personal welfare, or remedial treatment, or security of the property of an insane person, or the comfort or even safety of his family, are of sufficient weight under the law to warrant his detention. He must be *dangerous* to himself or the community. It seems to us that a general knowledge of the law in this respect will not only prove a safeguard against the attempt on the part of families to put improper persons into hospitals for the insane, but will diminish to some extent the usefulness of hospitals as curative institutions. Many cases will be allowed to go at large if their detention must be sought by judicial process before, or at the imminent risk of public interference after admission. In the case of Captain Holm the publicity acquired may prevent some of the evils and misfortunes which were dreaded by his family.

MEDICAL NOTES.

— The Medical Communications of the Massachusetts Medical Society for the current year have been issued. Besides the annual discourse and the prize essay, the pamphlet contains three other papers of great merit. The proceedings of the councillors and of the society are published, as usual, in the appendix, and on the last page of the cover are notices to Fellows, too often, we fear, overlooked by them. Announcement is made of the society's prize, and also of another prize of thirty dollars, which is offered by a Fellow "to any medical student of this State, or to any regular physician of less than two years' standing, for the best paper on the Physiological Action of some Drug of the Materia Medica as determined by Stated and Original Experiments." Essays designed for this prize should be sent to Dr. Robert Amory, Brookline, Mass.

— We are gratified by the appreciation of our reports on pathology shown by the London *Medical Record.* An acknowledgment of the sources from which the *Record* draws its material would add to our satisfaction.

— Dr. Apput (Virchow's *Archiv*, lxxi., 1878), by experimentation on frogs, found that, in cases of inflammation, the hypodermic injection of quinine stopped the emigration of the white blood corpuscles, hindered their attachment to the walls of the vessels, deepened their color, arrested the amæboid movement, and lessened the rate of the pulse and general circulation.

— The *Monthly Cincinnati Lancet and Observer* and the *Weekly Clinic* have fused under the title of *Cincinnati Lancet and Clinic*, to be issued weekly.

— Dr. Tholozau, the physician to the Shah of Persia, and correspondent of the French Academy of Sciences, reports that during an eleven years' residence in that country he has never seen but one or two isolated cases of scarlet fever or diphtheria, and that many of the oldest practitioners have never seen a case of either disease; neither is there any description of these diseases in any of the Arabian or Persian books now read in that country. In 1869, about the time that a similar epidemic visited Europe, scarlet fever made its appearance in the very centre of Persia, although it was impossible to discover any mode of communication with the interior; from this point it spread, in a general way, toward the frontiers. A large number of children succumbed both to scarlatina and to diphtheria.

— It is said that a dose of camphor will overcome sickness caused by tobacco.

— At a recent meeting of the Society of Physicians in Vienna, Schrötter reported a case in which the pulmonary percussion note was quite clear all over the chest, but in which loud bronchial respiration was very distinct. The case was obscure until an autopsy showed that the entire bronchial tree was partly bony, partly cartilaginous.

— Charcot has determined, in a precise manner, that magnets act upon hemi-anæsthesia of cerebral origin absolutely as metals and electric currents. Charcot exhibited to the Société de Biologie two patients, — one with left-sided, the other with right-sided hemi-anæsthesia. The action of a magnet removed the anæsthesia and transferred it to the sound side in the case of hysteric origin, but the metastasis did not occur in the hemi-anæsthesia of cerebral cause. "The different action," says the *Medical Examiner*, "furnishes a diagnostic sign of great importance."

— Dr. Bucknill, of London, pronounces the inebriate asylums of the United States a practical failure.

— The *Doctor* (London) quotes from a paper on ephelis by "Dr. James White, Havard, U. S."

— Iselin has been commissioned by the French government to execute a marble bust of Claude Bernard for the gallery at Versailles.

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SHORT COMMUNICATIONS.

YELLOW FEVER.

Mr. Editor, — It is much to be regretted that during the presence and the frightful and fatal progress at the South and Southwest of a disease like that of yellow fever, any opinions should be announced by leading medical men, or any orders issued by professional authority, which may in any way increase the panic already existing in places which are in communication with infected districts, or the distress of those who are endeavoring to escape from them. Yet the orders emanating from the bureaux of the surgeons-general of the army and the navy are sure to do this. Dr. Woodworth says, "In some instances *it has been carried inland with the people fleeing from infected localities.*" "*It is capable of being transported in the clothing or personal effects of passengers and sailors.*" And although he admits that "yellow fever is not communicated from the sick to the well," he adds that the "sick and well are dangerous as possible carriers of the poison-germ or miasm." In the next sentence the same thing is reiterated in another phrasing of the same doctrine, namely: "All *well persons* whose effects have been disinfected may be considered harmless after six or seven days have elapsed from the time of leaving an infected district or vessel." Of course, nothing can be more true, and it is quite as true without either of the inconvenient conditions named. The surgeon-general of the army proposes to make the United States *mail service safe by disinfecting its mail bags,* etc. Even a medical secretary of the Mississippi State Board of Health asks the postmaster-general to "please stop all mail matters, except first-class, from all infected points in this State." "We regard this as important to our safety." To which the postmaster-general replies with military promptness the same day, and with the good sense of a "first-class" sanitarian, "It is not desirable to direct the exclusion of any class of matter from the mails because of the prevalence of yellow fever."

It is not necessary to go into the discussion of the general question of the *contagiousness* of yellow fever, for that has been long since conclusively settled by the highest and most competent authority, *contagion* in this connection being defined by the English Board of Health as "the power of communicating disease from the *person* of an individual laboring under it to that of another, whether by actual contact through the medium of linen, bedding,

or any substance whatever; through the medium of the air, in a room in which an individual labors under the disease; the capability of being propagated by means of excretions or exhalations from the bodies of those affected; or, finally, by means of exhalations from the bodies of those who have died of it."[1]

The few persons who still remain as the advocates of contagion may be comprised under two classes: those who have not had sufficient opportunities of studying the disease, and those whose connection with lucrative offices in quarantine establishments may be expected to bias their opinions. Nor is there on record, to my knowledge, a single well-authenticated case of proven personal contagion, nor any supposed case of such, which cannot be better explained upon some other hypothesis.

The only mode in which the disease can be transmitted is by *infection*, and the laws which govern this transmission are as well settled as those which relate to those of contagion. I quote again from the Board of Health: "By *infection* is meant a principle which produces the disease, depending altogether upon *local* causes, and having no relation to emanations from persons laboring under the disease, or from the bodies of those who have died of it. Thus, a malaria spot, or a filthy locality, is a *focus of infection*."[2]

In the First Report on Quarantine I find the following remarks: "A foul ship," that is to say, a ship coming to a healthy from an infected port, "is not only a centre of disease to those on board, but a source of disease to her neighborhood. From a variety of evidence it appears indisputable that, while the foul state of a ship's hold is the frequent cause of malignant fever to her crew, *the air issuing from such a hold and the cargo taken from it are capable of producing disease in the neighborhood of the wharf where the unloading takes place, and of affecting persons who come on board from the shore*."

So far, therefore, as a vessel after lying in dock at an infected port may bring to the healthy one a section, so to speak, of the soil, the dock mud, the bilge water, and the atmosphere of that port in her closed hold, she may, and often does, on her arrival, become a source and centre of danger and disease. "That she *can communicate the disease by the liberation of the poison on opening the hatches, and especially on breaking out the cargo and ballast*," as Dr. Vaché expresses it, cannot be denied, and she should be dealt with accordingly.

The truth is that *no disease emanating from malaria is contagious*, and no person should be quarantined for yellow fever any more than for fever and ague. It is to be hoped, therefore, that the obsolete doctrines which would inflict the inconveniences, the distresses, and the dangers of quarantine upon the innocent victims of a non-contagious disease may no longer be the blind guides of those who have to deal with it. H. G. C.

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A NOVELTY IN OBSTETRICS.

Mr. Editor, — Kaheli-Imilau, a native woman whose husband is an Englishman, gave birth to a child. As is usual with these women she had called no physician, and none was in attendance. Several hours had passed after the baby was born, but the placenta did not come away. Her husband grew alarmed, and wished to go for a doctor. The woman would not consent to it. At last, however, fearing she would die, he started out to find me. Unfortunately, I was away from my office, and he went home again, expecting to find his wife dead or in greater suffering. What he did find is best told in his own words: —

"Well, you see, no sooner was my back turned than off she starts one of the youngsters for old Nuhi." (Nuhi is a native "kahuna," or medicine-man.) "As soon as I opened the door the first thing that I see was Nuhi straddlin' over my wife, with both of his hands gripped round her neck, — she black in the face, with her two eyes startin' out of her 'ead and her tongue stickin' out of her mouth, and her legs and arms goin' every which way. They was both on the floor, and the kahuna had his hands full to keep his hold. I went for Nuhi, you'd better believe. But just before I reached 'im, Kaheli gave a tremendous lunge, off went Nuhi, end over tip, and out flew that damned afterbirth, half-way acrost the room."

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[1] The Second Report on Quarantine, etc., page 157, G. B. H.

[2] Second Report, page 157.

When I saw the woman the next day, she was sitting quietly nursing her baby; and when I asked her about the rather extraordinary performance of the day before, she laughingly confirmed her husband's statement. I found her, as is almost always the case with these native women within twenty-four hours after delivery, in full health and strength, and ready to do her ordinary household work. Such is the fact, despite the coördinate fact that neither in physique nor in their full health and strength are they the equals of our average women in America. G. T. Shipley, M. D.

Koloa, Kauai, Sandwich Islands, *July* 29, 1878.

ABSTRACT OF SANITARY REPORTS RECEIVED DURING THE PAST WEEK UNDER THE NATIONAL QUARANTINE ACT.—No. VII.

Office Surgeon-General U. S. M. H. S., Washington, *August* 24, 1878.

New Orleans. — During the week ended yesterday noon there were 771 cases of yellow fever and 295 deaths, making in all 1673 cases and 534 deaths. During the twenty-four hours to noon yesterday there were 123 new cases and 40 deaths.

Vicksburg. — At least four hundred cases yellow fever from date of commencement, August 12th, to yesterday evening, and 69 deaths; 20 deaths during last twenty-four hours. Dr. Booth, in charge of the marine hospital service at that port, telegraphs: "I am sick; impossible to procure accurate data."

Memphis. — One hundred and forty-four cases of yellow fever and fifty-three deaths during six days to Friday evening.

Canton, Miss. — First case of yellow fever occurred at Canton on August 1st. To yesterday evening there were eighteen cases and eight deaths.

Port Gibson, Miss. — First case yellow fever, originating in Port Gibson, occurred August 3d, resulting in death August 8th. The disease began to spread August 14th. One hundred and eighteen cases and nine deaths to yesterday morning.

Cincinnati. — To yesterday evening no more cases yellow fever had developed at Cincinnati since the two mentioned in the last report. The engineer of the steamer Golden Rule was admitted to hospital the 22d inst. with yellow fever, and also one other case, probably yellow fever, from Memphis.

Morgan City, La. — One case of yellow fever August 21st, patient from New Orleans.

Ocean Springs, Miss. — Three cases yellow fever and one death; all imported.

St. Louis. — Four refugees died of yellow fever at St. Louis during past week.

Louisville. — Four river boatmen suffering from yellow fever are under treatment in an improvised hospital on the Marine Hospital grounds, admitted from steamers John Porter, Sunflower Belle, and Golden Crown, on the 17th and 18th inst.

Mobile. — The case reported as yellow fever August 16th is now officially announced as undoubtedly a mistake. Dispatches to 23d inst. report good health.

Key West. — No yellow fever for three weeks to yesterday evening.

Grenada, Miss. — So many of remaining population stricken with the fever that definite information of number of cases and deaths could not be obtained.

Havana. — Ninety deaths from yellow fever and six of small-pox: week ended August 17th.

Matanzas. — Decreased cases yellow fever. Only five American vessels in port August 16th, and all of them have either had or were having cases of yellow fever on board.

Cardenas and Sagua la Grande, Cuba. — No yellow fever. Advices to 16th inst.

Bombay. — Thirty-three deaths from cholera and fifteen from small-pox: week ended July 2d.

Calcutta. — Nineteen deaths from cholera and thirty-six from small-pox: week ended June 22d.

Reports from other places indicate good health. John M. Woodworth,
Surgeon-General U. S. Marine Hospital Service.

COMPARATIVE MORTALITY-RATES.

	Estimated Population, July 1, 1878.	Deaths during week ending August 17, 1878.	Annual Death-Rates per 1000 living.		
			For the Week.	For the Year 1877.	Mean for ten Years, '68-77.
New York.	1,093,171	569	27.06	23.42	28.71
Philadelphia.	876,118	353	20.95	18.80	21.54
Brooklyn.	549,438	247	23.38	21.51	25.50
Chicago.	460,000	172	19.43	17.83	22.39
Boston.	375,476	189	26.18	20.10	24.34
Providence.	100,000	46	23.92	18.81	19.20
Lowell.	55,798	39	36.35	19.09	22.50
Worcester.	54,937	17	16.09	20.06	22.30
Cambridge.	53,547	32	32.04	18.69	20.83
Fall River.	53,207	22	21.50	21.35	24.96
Lynn.	35,528	17	24.90	20.42	19.67
Springfield.	33,981	12	18.37	16.02	19.77
Salem.	27,140	4	7.66	20.38	21.15

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The Gynæcological Society of Boston. — The next regular meeting of the society will be held at the Evans House, the first Thursday of September, at two o'clock P. M. Doors open to members of the profession, who are cordially invited to be present, after the transaction of society business. HENRY M. FIELD, *Secretary.*

Appointment. — Dr. J. B. Swift has been appointed assistant port physician in place of Dr. Ricker, resigned.

Books and Pamphlets Received. — Krankheiten bei Syphilis. Von Dr. M. Haefler, Praktischer Artz in Tölz. München. 1878.

Life. Advanced Sheets of a New Work on Physiology. By W. H. Triplett, M. D. Washington, D. C., U. S.

Scraping-Spoon (Mr. Balmanno Squire's) for the Treatment of Lupus Vulgaris, Lupus Erythematosus, Rodent Ulcer, etc. Manufactured by John Weiss & Son, 62 Strand, London.

Medico-Legal Evidence relating to the Detection of Human Blood presenting the Alterations characteristic of Malarial Fever, on the Clothing of a Man accused of the Murder of Narcisse Arrieux, December 27, 1876, near Donaldsonville, State of Louisiana. By Joseph Jones, M. D., Professor of Chemistry and Clinical Medicine, Medical Department of the University of Louisiana, etc. (Reprint.)

Cholecystomy for the Removal of Gall-Stones in Dropsy of the Gall-Bladder. By J. Marion Sims, M. D., etc. (Reprint.)

Transactions of the South Carolina Medical Association, Twenty-Eighth Annual Session, Greenville, S. C., April, 1878.

Anatomy, Descriptive and Surgical. By Henry Gray, F. R. S., Lecturer on Anatomy at St. George's Hospital Medical School. A new American from the eighth and enlarged English Edition, to which is added Landmarks, Medical and Surgical, by Luther Holden, F. R. C. S. Philadelphia: Henry C. Lea. 1878. (From A. Williams & Co.)

A Practical Treatise on the Diseases of the Ear. By D. B. St. John Roosa, M. A., M. D. Fourth edition. New York: William Wood & Co. 1878. (From A. Williams & Co.)

On the Therapeutic Forces. By Thomas J. Mays, M. D. Philadelphia: Lindsay and Blakiston. 1878. (From A. Williams & Co.)

Atlas of Skin Diseases. By Louis A. Duhring, M. D. Part IV. Philadelphia: J. B. Lippincott & Co. 1878.